

REMARKS

Claims 1-8 are pending in the application. Claims 9 and 10 have been cancelled.

Claim 1 has been amended in order to define that by-products of electrolysis and foundry (BPEF) used in the invention contain Mg. Support can be found in paragraph [0031] of the description. Claim 1 is further amended to correct a perceived antecedent basis problem.

Claim rejection - 35 USC 102

Claims 1-8 have been rejected under 35 U.S.C. 103(a) as obvious in view of Hughes.

It is well-known that to establish a *prima facie* case of obviousness, the prior art reference(s) must teach or suggest all of the claim limitations, and there must also be an expectation of success in reaching the invention by modifying the prior art in the manner the Examiner asserts.

Nowhere is it disclosed or even suggested in Hughes that the BFEF by-product needs to have Mg as claimed and taught in the present application. On the contrary, Hughes is enabling for the use of a by-product from a titanium dioxide manufacturing process containing TiO₂ (see column 6). Otherwise, Hughes mentions that the by-product contains calcium and iron, and preferably a transition metal of column IV of the periodic table, (see column 8). However, Mg is an alkaline earth metal (column II of the periodic table), not a transition metal, and so, Hughes does not teach or suggest at least this feature of the claims.

It would not have been obvious to a person skilled in the art to replace a transition metal or TiO₂ by magnesium since metals have their particular solubility property in soil. The following references (which will follow with a supplemental response) of Kabata-Pendias, Felton et al., Moore et al. (1999), Levlin et al., Sas et al., and Moore et al. (2007) support this assertion. As an example, Levlin teaches that sludge compositions depend on the choice of precipitation chemicals. Kabata-Pendias demonstrate the difference in mobility of metals as influenced by soil pH. Clearly, there is no suggestion or motivation, either in the reference of Hughes or in the knowledge generally available to one of ordinary skill in the art, to modify the teaching of Hughes by replacing transition metals or TiO₂ by magnesium in order to obtain reasonable expectation of success because of the variability in result obtained depending on the metal used.

Further, the present invention recites a step of separating liquid from solid fractions where phosphorus is being found in the solid fractions. In Hughes, no such step of separating two phases or fractions is described. On the contrary, Hughes teaches the reduction of the bio-availability of phosphorus by using a Ti-containing filter cake, which is a solid material which basically will bind the phosphorous in order to reduce its bio-availability. The cake only acts as an entrapping material for phosphorus.

There step in the present invention of separating different phases provides an advantage since the liquid phase can be sprayed on soils without limitation of by phosphorous in accordance with environmental regulations (see paragraph [0066] of the present application) since the phosphorus is physically removed and not simply sequestered as described by Hughes.

Since Hughes fails to disclose or suggest at least two features recited in the present invention, the reference fails to establish *prima facie* obviousness of the invention. Reconsideration and withdrawal of the Examiner's rejection are therefore earnestly solicited.


Applicant submits that the claims are in condition for allowance, and such favorable action is requested.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Mark J. Nuell, Ph.D., Reg. No. 36,623, at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

By 
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